

## REMARKS

### I. Status Summary

Claims 1-9 are pending in the present application and claims 1-9 stand rejected. Claim 1 has been amended. Support for the amendments can be found throughout the specification, for example, in the paragraph, beginning on page 7, line 21, of the substitute specification. Reconsideration of the application based on the arguments set forth hereinbelow is respectfully requested.

### II. Claim Rejections Under 35 U.S.C. § 103

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,058,047 to Chung (hereinafter, "Chung") in view of U.S. Patent No. 6,389,069 to Mathe (hereinafter, "Mathe") and further in view of U.S. Patent No. 6,661,837 to Abdelilah et al. (hereinafter, "Abdelilah"). These rejections are respectfully traversed.

Claim 1 recites a codec circuit having a programmable digital bandpass filter for matching the filter characteristics of the codec circuit to a transmitted PCM signal. Further, Claim 1 recites at least one programmable digital high-pass filter and at least one programmable digital low-pass filter connected in series. Claim 1 as amended also recites a signal identification device configured to identify the type of modulation and transmission speed of a transmitted PCM signal. The signal identification device is also configured to set filter coefficients for the at least one programmable digital high pass filter and the at least one programmable digital low pass filter based on the identified type of modulation and transmission speed of the transmitted PCM signal. Applicant

respectfully submits that these features are not taught or suggested by Chung, Mathe, and Abdelilah, either alone or in combination. In particular, Chung, Mathe, and Abdelilah, either alone or in combination, do not disclose a signal identification device configured to identify the type of modulation and transmission speed of a transmitted PCM signal and set filter coefficients for the programmable digital high pass and low pass filters based on the identified type of modulation and transmission speed of the transmitted PCM signal.

Applicant thanks the Examiner for explaining his position in the Official Action of March 21, 2007. Applicant respectfully disagrees with the Examiner's understanding of Chung and Mathe as outlined therein. The Examiner has clearly relied on hindsight bias to read in disclosure that is not present or inherent in these documents. The Examiner stated in the Official Action of March 21, 2007 that Chung discloses transferring PCM samples to a time slot assigning circuit for receiving the PCM samples from a PCM highway, where a path is recognized or identified for processing the PCM samples as outlined in Chung at column 4, lines 19-27. However, the Examiner fails to point out that Chung discloses a circuit having a first input **12** for receiving analog signals, a second output **18** for sending analog signals, a first output **14** for sending PCM signals and a second input **16** for receiving PCM signals (samples). Thereby, the analog signals and the PCM signals are provided by different lines to the filters. Accordingly, the filter will treat any signal provided by the analog input as an analog signal regardless of whether a different type of signal other than an analog signal is provided to the analog input. Thus, all signals provided by the second input **16** will be treated as PCM

signals. Further, the filter function will convert any analog voice signal into a digital pulse code and place it on the PCM highway.

Chung does not disclose, teach, or suggest that the PCM signals would be treated in any other way. Thus, Chung does not disclose, teach, or suggest considering the quality of the signals in the treatment of the signal. Chung only considers by which channel the signal is provided in the treatment of the signal.

Therefore, the device of Chung does not identify the signal. The word "identify" means to establish the identity of, i.e., determining the condition or fact of a thing as being specific and unique. (See, Shorter Oxford English Dictionary, 2002, definition of "identify.") The words "identification," "identifying," and "identified," which come from the root word "identify," are specifically used in the specification and claims of the present application to signify that the identity of the signals is or is being established. Chung does not consider the quality and uniqueness of each of the signals in the input line. In Chung, only the lines are identified not the signals.

Further, Chung discloses that the filter coefficients are generated utilizing an iterative adapted process by using a specific applied input signal. (See, Chung, abstract and col. 5, ll. 57-63.) Additionally, Chung discloses the use of programmable digital filters **30**, **44**. These digital filters are used to provide a frequency response correction. However, the defined desired filter characteristic depends on static values like the line impedance, the termination impedance, the attenuation, the desired gain of the attenuator **28**, the received buffer transfer function, etc. (See, Chung, col. 5, ll. 45-

50.) All these properties are independent of the signals transmitted to and by the codec circuit.

In contrast, claim 1 recites setting the filter coefficients. Thus, the coefficients are not determined by an iterative method. Further, the filter coefficients are not set with respect to static properties of the codec circuit or the transmission lines, but in view of an identified PCM signal. Claim 1 specifies that the identification of a PCM signal is effected by identifying the type of modulation and transmission speed of the respective PCM signal. Thus, Chung does not disclose, teach, or suggest a signal identification device that identifies the type of modulation and transmission speed of a transmitted PCM signal and setting the filter coefficients based on the identified type of modulation and transmission speed of the transmitted PCM signal.

Neither Mathe nor Abdelilah overcome the shortcomings of Chung as suggested by the Examiner. Mathe discloses separating a filter into several blocks with each block provided with a programmable digital filter, in the form of a jammer-filter. The jammer filters have a programmable coefficient which is provided by a microprocessor. Different programmable coefficients are provided for CDMA signals and frequency modulation signals. (See, Mathe, col. 4, ll. 30-44.)

According to the Examiner, one of ordinary skill in the art would combine Mathe and Chung in order to conserve electric power and to have control over the transfer function. However, to combine Chung and Mathe would increase complexity and power consumption due to the use of such a complex filter as disclosed by Mathe since Chung only processes PCM signals through input **16** and output **14**.

Further, Mathe fails to disclose, teach or suggest that the different programmable coefficients are provided upon identifying a DDMA signal or FM signal. Mathe does not disclose, teach or suggest a signal identification device identifying the PCM signal and setting the filter coefficients.

The Examiner contends that Abdelilah shows a signal identification device setting an adaptive filter as a function of the transmitted PCM signal. Figure 3 of Abdelilah discloses an adaptive digital filter **94** that provides an interpolation of signals between the transmitter **62** and the receiver **64**. The transmitter **62** comprises just a V.34 encoder **68** operating with a static sampling rate of 3,200 samples per second. The receiver comprises an automatic gain control component **78** working at a rate of 9,600 samples per second that is a further fixed sample rate. The tab coefficients for the adaptive digital filter **94** are trained during a start-up interval for a modem using test signals. (See, Abdelilah, col. 8, l. 66-col. 9, l. 3.)

The tab coefficients of the adaptive digital filter do not depend on PCM signal transmitted or received. Abdelilah does not disclose, teach, or suggest otherwise. Tab coefficients of a decision feed-back equalizer **84** are just updated upon severe error detections and error vectors. (See, Abdelilah, col. 17, ll. 32-35.) Thus, these tab coefficients are not set, but rather iteratively determined and not related to the type of incoming signal. Therefore, Abdelilah does not disclose a signal identification device configured to identify the type of modulation and transmission speed of a transmitted PCM signal and set filter coefficients for the programmable digital high pass and low

pass filters based on the identified type of modulation and transmission speed of the transmitted PCM signal.

Applicant respectfully submits that, in view of the above amendments and remarks, Chung, Mathe, and Abdelilah, either alone or in combination, do not teach or suggest all of the elements recited by Claim 1. Accordingly, applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. §103(a) be withdrawn and the claim allowed at this time.

Claims 2-9 depend upon Claim 1. Therefore, the comments presented above relating to Claim 1 apply equally to Claims 2-9. Accordingly, for the reasons provided above for Claim 1, applicant respectfully requests that the rejection of Claims 2-9 under 35 U.S.C. § 103(a) be withdrawn and the claims allowed at this time.

CONCLUSION

In light of the above Remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

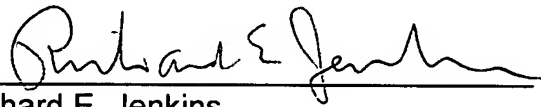
The Commissioner is hereby authorized to charge any additional fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

Date: June 29, 2007

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